

Monolithic Digital IC

SANYO	NO.1977B	LB1710
	Low-Active, 7-Unit, Darlington Transistor Array	

Applications

- . Relay drivers, printer drivers, lamp drivers

Features

- . Input: Low-active type, Output: Sink type
- . High breakdown voltage $V_{CE0}=50V$
- . High-current drive $I_{Cmax}=400mA$
- . On-chip input diodes

Absolute Maximum Ratings at Ta=25°C

			unit
Maximum Supply Voltage	V_{CCmax}	10	V
Collector-to-Emitter Voltage	V_{CE0}	50	V
Collector Current	I_C Per unit	400	mA
Input Voltage	V_{IN}	10	V
Allowable Power Dissipation	P_{dmax}	1.5	W
Operating Temperature	T_{opr}	-20 to +75	°C
Storage Temperature	T_{stg}	-55 to +150	°C

Allowable Operating Conditions at Ta=25°C

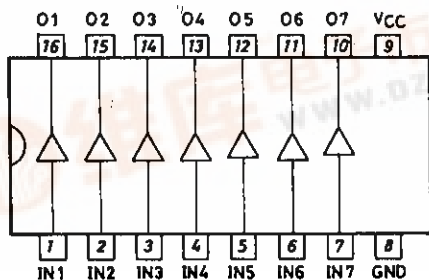
		min	typ	max	unit
Supply Voltage	V_{CC}	4	5	8	V
Collector Current (per unit)	I_C			400	mA
				140	mA
Input "H"-Level Voltage	V_{INH}	$V_{CC}-0.5$		V_{CC}	V
Input "L"-Level Voltage	V_{INL}	0	$V_{CC}-3.5$		V

Electrical Characteristics at Ta=25°C

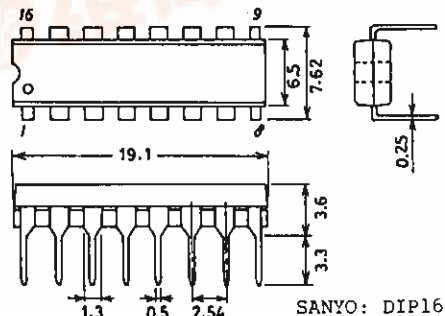
		Test Circuit	min	typ	max	unit
Collector to Emitter Cutoff Current	I_{CE0}	$I_{IN}=0A, V_{CC}=5V, V_{CE}=50V$	1		100	μA
Collector to Emitter Saturation Voltage	$V_{CE(sat)}^1$	$V_{IN}=2V, V_{CC}=5V, I_C=0.35A$	2	1.2	2.0	V
Collector to Emitter Saturation Voltage	$V_{CE(sat)}^2$	$V_{IN}=2V, V_{CC}=5V, I_C=0.2A$	2	1.0	1.6	V

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Pin Assignment and Equivalent Circuit Block Diagram



Package Dimensions 3064-D16TR (unit: mm)



SANYO: DIP16



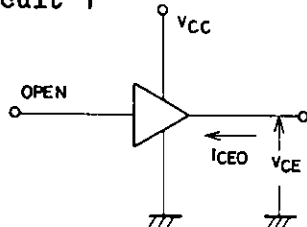
LB1710

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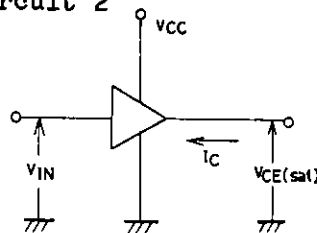
			Circuit min	typ	max	unit
Input Current (ON-state)	$I_{IN(ON)}$	$V_{IN}=1.5V, V_{CC}=5V$	3		-0.58	mA
Input Current (OFF-state)	$I_{IN(OFF)}$	$V_{IN}=10V(7ch), V_{CC}=0V$	4		100	μA
Input Voltage	$V_{IN(ON)}$	$V_{CC}=5V, I_C=0.35A$	5	0	1.5	V
Current Dissipation (ON-state)	$I_{CC(ON)}$	$V_{IN}=1.5A, V_{CC}=5V$	6		3	mA
Current Dissipation (OFF-state)	$I_{CC(OFF)}$	$I_{IN}=0A(7ch), V_{CC}=5V$	6		100	μA

Test Circuits

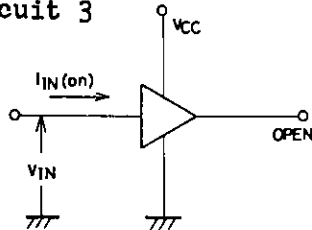
Test Circuit 1



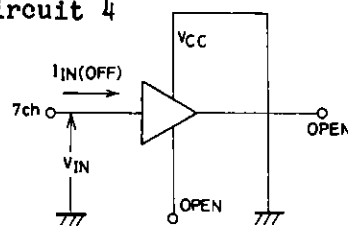
Test Circuit 2



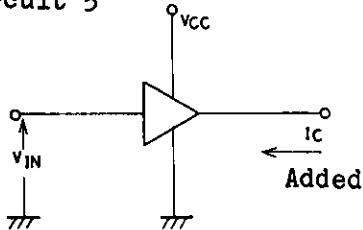
Test Circuit 3



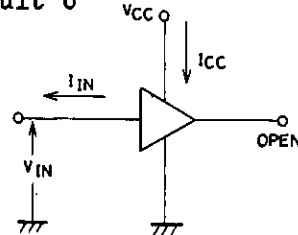
Test Circuit 4



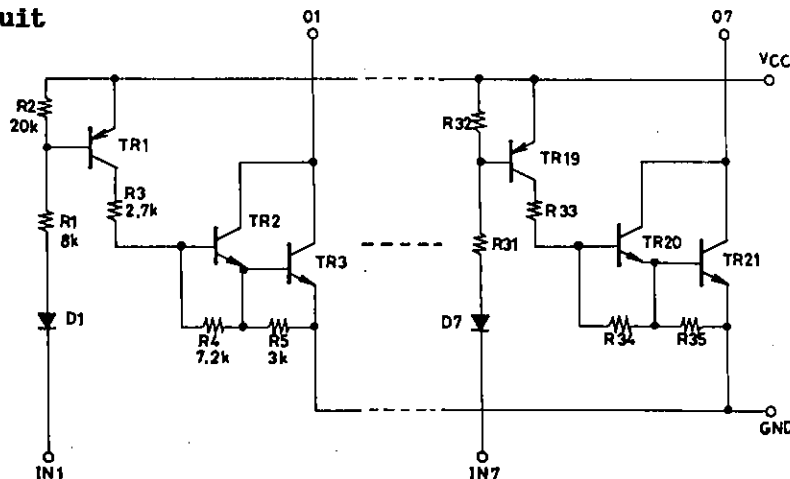
Test Circuit 5



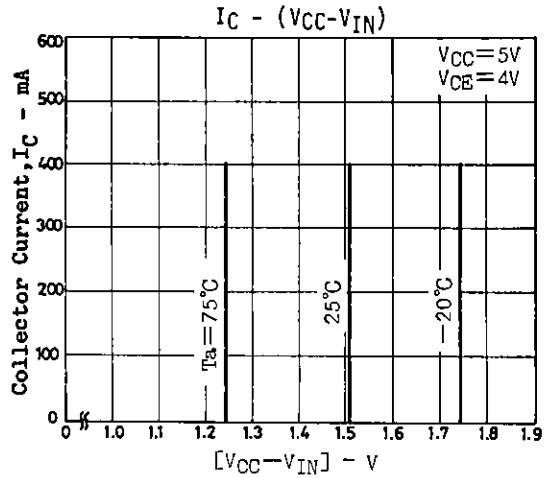
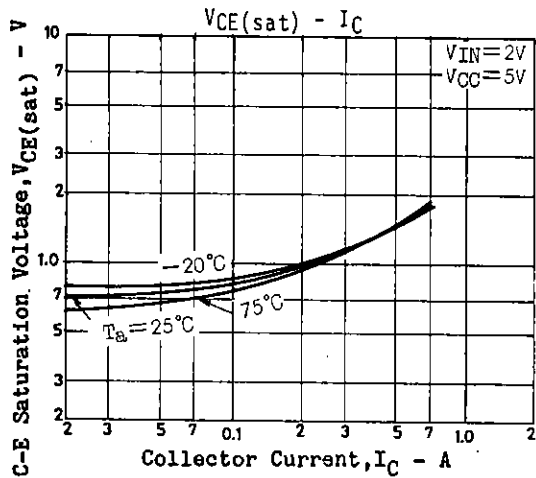
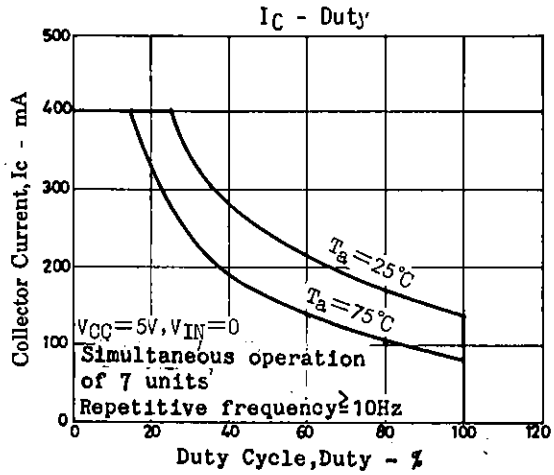
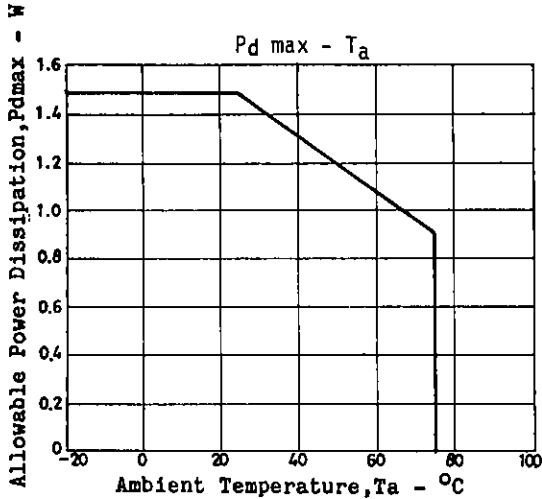
Test Circuit 6



Equivalent Circuit



Unit (resistance: Ω)



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